THE INSTITUTE SPOKESMAN

MR. H. P. HOBART,
PRESIDENT, N. L. G. I., 1946-47

PUBLISHED BY THE
NATIONAL LUBRICATING GREASE INSTITUTE

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"The Spokesman" in New Dress

With this issue of "The Institute Spokesman," the first one entirely edited, printed and mailed from the new National Headquarters in Kansas City, there is a decided change in the format of the magazine. The front cover has been redesigned. All of the type matter has been removed and a picture has been added. For this issue we are using the picture of Mr. H. P. Hobart, the newly elected President of N. L. G. I. Each month the picture will be changed and likely as not, since the next issue will be the Christmas one, the picture will have something to do with the Yuletide. Inside you will notice that we have broken up the solid pages of advertisement and have placed information and material of reader interest on every page. This has the two-fold purpose of drawing our reader's attention to the advertisements carried in "The Spokesman" and increasing the value of the advertising space to the advertiser.

Notice, please, that there is no change in the editorial policy of "The Spokesman." A technical paper is carried in this issue and you will find one in each

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The INSTITUTE SPOKESMAN

Published monthly by

THE NATIONAL LUBRICATING GREASE INSTITUTE

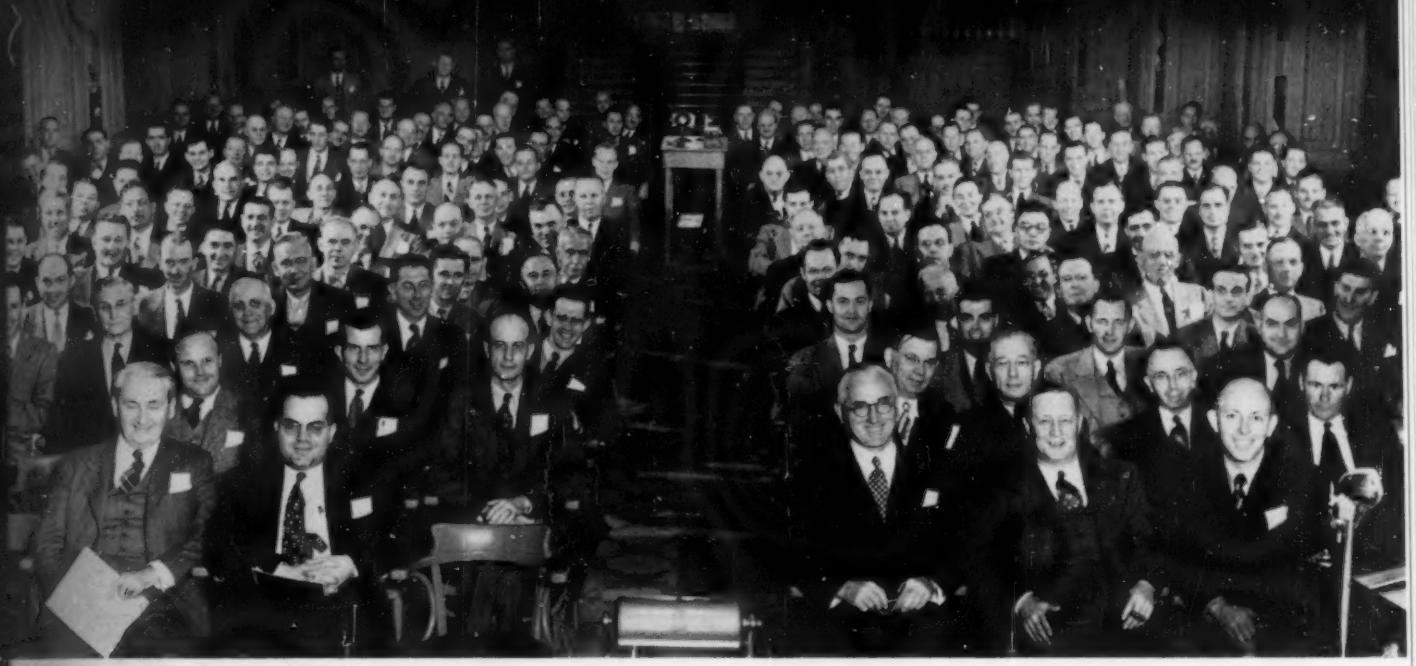
CARL E. BOLTE ..... *Editor*

Land Bank Bldg. K. C. 6, Mo.

WE HAVE MOVED

The moving of the National Headquarters of the Institute from Buffalo to Kansas City has been completed. All of the files and records have been transferred. "The Institute Spokesman" is being edited, published and mailed from Kansas City and all information and inquiries should be directed to Carl E. Bolte, Executive Secretary, National Lubricating Grease Institute, Land Bank Building, Kansas City 6, Missouri.

NLGI FOURTEENTH ANNUAL CONVENTION
September 30 - October 1-2



More than 250 members and guests of National Lubricating Grease Institute cked in at the registration desk at Edgewater Beach Hotel on Monday rning, September the 30th, 1946, then ved into the grand ballroom for the ning session which was called to order President Carl W. Georgi, Enterprise Co., Buffalo, New York. In an ad- s of welcome President Georgi ex- ssed his appreciation for the large mber in attendance, outlined briefly great progress made by the Institute ring the year, listing the new members t had been added, the employment of ull-time Executive Secretary, the mov- of the National Headquarters from ffalo to Kansas City, Missouri, and dicted consistently greater and more standing accomplishments for the In- stitute in the future.

Carl E. Bolte, the new Executive Sec- retary, was introduced, who spoke briefly concerning the great opportunities for service to the consumer and the value to the membership of associations like the L. G. I. He closed with a pledge of time devotion to the work of the Institute and requested the advice, coun- and cooperation of the entire member- ship. President Georgi introduced the first technical paper of the program.

Prepared jointly by Mr. R. C. Adams and Mr. S. M. Collegeman of the United States Naval Engineering Experiment Station, Annapolis, Maryland, Dr. Adams was present in person to read his paper and show slides to illustrate the charts and machines used in connection with the "Evaluation of High Temperature Grease." Pre-prints of this paper were not available for distribution at the meeting, but will be carried in an early issue of "The Institute Spokesman" with full pictures and charts.

While it would be very difficult to pick out one or several highlights of the Convention program, certainly the next speaker, Col. S. J. M. Auld, Chief Technician, Socony-Vacuum Oil Co., Ltd., and Chairman of the Grease Sub-Committee of the Institute of Petroleums from London, England, commanded the attention of his appreciative audience speaking on the subject: "The War and Post-War Grease Industry in England." The colonel showed pictures of the destruction by German bombs of grease plants and told in pleasing manner of their rapid rebuilding in order that the absence of lubricating grease might not be a bottleneck in war production.

During the luncheon hour the Board of Directors of the Institute met for the final meeting of the year hearing reports of various officers and Committee Chairmen.

During the afternoon session, Mr. T. G. Roehner, Socony-Vacuum Oil Co., New York City, spoke on "Pressure-Viscosity Characteristics of Grease." The "Design of Anti-Friction Bearing Installations with Special Reference to Electric Motors" was discussed by Walter Saveland, Jr., Mechanical Engineer, Allis-Chalmers Mfg. Co., Norwood, Ohio. Mr. B. B. Farrington, California Research Corp, San Francisco, Calif., read a paper on "Electron-Microscope Studies of Lubricating Greases" and the afternoon session ended as Glenn A. Williams of the Battenfeld Grease and Oil Corp., Kansas City, Missouri, read a paper on "Rapid Method for Determination of Oil in Lubricating Greases" in which Mr. C. J. Boner of the same company served as co-author.

Pre-prints of the Williams and Saveland papers were available for distribution

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Singing, relaxation and good fellowship marked the Cocktail Hour on Tuesday at 5 P. M. Edgewater Beach Hotel, Chicago.

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at the meeting. The others will appear in "The Institute Spokesman."

The Annual Business Meeting of N. L. G. I. convened at 4:30 p. m. in the main ballroom presided over by President Georgi. The Nominating Committee Chairman, Mr. J. R. Battenfeld, reported the names of these Active Members for a three year period as Directors:

Mr. W. G. Clark
Pure Oil Co.
Chicago, Illinois

Mr. J. R. Corbett
Cato Oil and Grease Co.
Oklahoma City, Okla.

Mr. C. W. Georgi
Enterprise Oil Co.
Buffalo, N. Y.

Mr. H. P. Hobart
Gulf Oil Co.
Pittsburgh, Pa.

Mr. H. A. Mayor
Southwest Grease and Oil Co.
Wichita, Kans.

Mr. G. L. Neely
Standard Oil of Calif.
San Francisco, Calif.

These men were unanimously elected. Mr. E. V. Moncrieff, Treasurer, read from the Financial Statement of the Institute indicating that N. L. G. I. was operating well within its budget and in sound financial shape. Executive Secretary Carl E. Bolte read from a written report indicating his activities and those of the National Headquarters for the period, July 1st to September 30th, 1946.

Mr. J. R. Battenfeld, Chairman of the Membership Committee, read a list of the new members that have joined the Institute since the last Annual Meeting. Having completed the business, the meeting adjourned.

In line with tradition and custom Vice-President H. P. Hobart presided at the second day's session, Tuesday, October the 1st. Three papers were read in the morning session as follows:

"Modern Trends in the Applications of Lubricating Greases," by Charles Kraus, Sales Manager, Alemite Distribution Div., Stewart-Warner Corp., Chicago, Illinois.

"Lubricating of Ball Bearings and Suitable Housing Design," by H. Reynolds, Chief Engineer, Fafnir Bearing Co., New Britain, Conn.

"Continuous Process for Aluminum Grease," by H. G. Houlton with M. Sutton and H. W. Bevarly as co-authors, Votator Div., The Girdler Corp., Louisville, Ky.

In the afternoon session the folly of cheap and careless lubrication of automotive equipment and its importance to the national economy was reviewed by Mr. D. P. Clark of the Gulf Oil Corp. and Secretary of A. P. I.'s Lubrication Committee. Under the title "Take Good Care of Your Lubricants and They Will Take Good Care of Your Car," Dr. H. R. Wolf, General Motors Corp., Research Laboratories Div., Detroit, Mich., read a paper on "All-Purpose Gear Oils." "Strontium Greases" was discussed by L. W. McLennan of the Union Oil of California, Oleum, Calif., with H. J. Worth of the Union Oil Research Dept. as co-author.

Of the papers read on the second day three were available in pre-prints for distribution at the meeting: Mr. Kraus, Mr. Clark, and Mr. McLennan. The rest will be carried in "The Institute Spokesman."

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TAKE GOOD CARE OF YOUR LUBRICANTS AND THEY WILL TAKE CARE OF YOUR CAR

by D. P. Clark
Secretary, Lubrication Committee, American Petroleum Institute, Gulf Oil Corporation

Mr. Chairman, Members of the National Lubricating Grease Institute, and Guests. I do not expect that my remarks today will add to the facts which you already have on the lubrication of automotive vehicles. What I do hope is that I can point, in perhaps a slightly different manner than has been done, to the all important part that lubricants have in this automotive field. Without lubricants automotive vehicles would be as motionless as the Egyptian Sphinx.

It is the job for the Grease and Petroleum Industries to supply the proper types and grades of lubricants to the automotive vehicle owner—and in addition and by no means lesser—recommend to him safe practices in the lubrication of his vehicle. These practices which we do recommend must, and have been, based not only upon engineering and research studies but also upon many reports and case studies which have come to us from the vast chain of service stations and garages in this country.

Mr. D. P. Clark

Advantages of the proper care of motor car lubricants means: by proper care and selection of them we have assurance from them that they will do their part in the lubrication job they are called upon to perform.

To the motorist we say—"Take good care of your lubricants and they will take good care of your car." In using the word "care" it is intended that this word covers the broadest sense that "care" can imply. It means an appreciation and understanding that all surfaces in contact where motion takes place must be lubricated. It means proper selection of the grade and quality of the lubricants required. It means reliance upon the service of recognized and reputable service stations, garages and car

dealers—and it also means providing protection for these lubricants, wherever possible, from unnecessary and needless contamination.

The lubricants we are to talk about cover engine crankcase oil, transmission and differential oils, universal joint greases, wheel bearing greases, chassis greases, etc. In other words, all of the lubricants required to cover each and every part of an automotive vehicle where motion takes place between surfaces in contact.

Having now established what is meant in the use of this word "care," I want to now repeat: "Take good care of your lubricants and they will take good care of your car."

In speaking of cars, we are concerned not only with a personal vehicle or family car but also the tractor, the motor truck, the bus, or any and all types of automotive vehicle.

The motor car represents the largest single group of automotive vehicles on the road today—so, for purposes of my remarks, I have chosen to refer to it as representative of a whole class of automotive vehicles. Today it is no longer a pleasure vehicle—it is as essential a part of the equipment of a family as the furnishings of the house or even the house itself. It has become so much a part of our daily life that it is difficult for us to imagine how previous generations managed to get along without one.

Likewise, in business, the motor car is now indispensable. It provides transportation for salesmen, service men, and business trips where train schedules do not fit conveniently or trains are overcrowded or where there is no service at all.

Before confining my remarks to the general term of car, however, some mention should be made of these other vehicles which must be included in an automotive list.

The power tractor has taken heavy manual labor out of farming and increased yields per acre and per farm. It has also accelerated the rate by which highways and roads can be built and it performs thousands of functions which formerly had to depend upon the limited strength of draught animals.

The motor truck and bus have also become an indispensable part of our modern economy. As an illustration a 15-ton truck trailer today can transport 15 tons of cargo in ten hours from Pittsburgh to Philadelphia—a distance of 300 miles. To carry the same load by animal draught vehicles would require at least some thirty wagons and thirty spans of horses, and this caravan would require at least 15 days to complete the trip which a truck trailer can make in one load in less than half a day.

It is interesting to note the distances in miles which separate country towns one from the other. These did not develop by happenstance—they represent the limits that animal draught farm wagons could cover from the farms to the towns and back again to the farm during the hours of sunlight. A glance at any railroad map will show that the distances between towns are from 8 to 10 miles on average in the older settled areas of this country.

These references or comparisons may appear to be needless, but I feel that occasionally it is well to look back in retrospect in order that we may appreciate the contribution which the automotive vehicle has made to the present state of our Nation's progress. Now—too often, the inclination is to give the majority of the credit for all of these benefits to the automotive engineering fraternity and the car manufacturer and I do not wish to take away from them such of the credit to which they are justly entitled.

I believe the time is long overdue, however, for the petroleum and grease industries to blow their own horns and take due credit to themselves for the tremendous contribution which they have made and by which contribution only were th automotive engineering fraternity and th car manufacturers able to provide a ve hicle which could perform useful servic

Automotive vehicles could be built a the rate of 1,000 per year, 100,000 pe year, or even 6,000,000 per year, but no a single one of these would be of an value whatsoever, except for what deco rative value they might have, unle there was sufficient quantities of gas line made readily available to provid power—and even more important—suf ficient quantities of the proper types an grades of lubricants to permit the powe in the gasoline to perform useful work

Gasoline and lubricants are made avail able through service stations and garage strategically located in the cities, on th highways and on the by-roads, an drivers of automotive vehicles have long since learned by experience that whe they start off on a journey they are as sured that no matter in what direction the route of travel may be there will b facilities available for providing them with their needs of gasoline and lubri cants for power and lubrication.

I feel that we are all prone at time to take everyday experiences for granted and because this is so I believe that it i

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ell to occasionally review many things at we already know. Because, in the view, we very often arrive at a new ought or perspective.

Let us consider for a minute what goes in the engine of an average type car, r the basis of figuration let us assume is equipped with 6.00x16 tires, the r axle ratio is 3.9 in third gear. Carrying a calculation through, we find that e piston foot travel on a 4⅜-inch roke per mile would be 2,048 feet approximately and this for a single piston. other words, in a six-cylinder engine six cylinders will have each traversed distance of 2,048 feet while a mile is ing covered in travel. This is something that you already know, but I wonder whether we stop to consider this ston foot travel when time is taken to consideration. The number of feet ese pistons travel vertically while the hicle is in motion is interesting:

At 30 miles the distance in foot travel is 61,440 feet for the thirty miles or more than 11 and one-half miles is covered in distance by the piston in its up and down motion in the harnessing of the power in the gasoline.

At 50 miles the distance is 102,440 feet for the 50 miles or about 19 and one-half miles.

While the pistons are traversing such distances the crankshaft bearings have by no means been idle. The connecting rod big end bearings on the crankshaft are revolved when the speed is 30 miles per hour at the rate of 2,800 revolutions per mile or 84,000 revolutions per each 30 miles—or 140,000 revolutions per each 50 miles—and this also for each connecting rod big end bearing for each of the six pistons.

Without going into any further discussion on any of the other bearings in the engine—although they are equally important—let us look at the only thing that makes the motion of these moving parts possible. It is a film of lubricating oil approximately one-thousandth of an inch thick. This film of lubricant is the one medium which stands between useful power output of the engine and no power at all. Without this thin film of lubricant which must be maintained at all times between the pistons and the cylinder walls—between the metal surfaces of the bearings and all other parts where motion takes place—the surfaces of these metals would be destroyed in a few minutes if operation would be attempted.

There is no need to elaborate upon the fact—well established—that the surfaces of dry bearings or dry surfaces of metals in contact where motion takes place would be destroyed in a few minutes if any work would be attempted.

Again using the average car for illustration purposes, we assume a motor oil crankcase capacity of 5 quarts—this is forced through the circulating system of the engine to provide this protective and essential lubricating film at the rate of 11 quarts per minute when travelling at at the rate of 30 miles per hour and 18 quarts per minute when travelling at the rate of 50 miles per hour. Looking at it another way—to cover 30 miles in distance the 5 quarts of motor oil has been recycled 130 times—if travel was at the rate of 30 miles per hour and 130 times if travel was at the rate of 50 miles per hour. In the first case 130 times per hour, in the second case 130 times in 36 minutes.

Let me go back to the point that while this circulation of crankcase oil is going on that the oil itself is performing the most vital service of lubrication of the engine at a working thickness of one-thousandth of an inch in thickness.

When we speak of this function of lubrication of the engine we are apt to overlook the fact that the word lubrication is an all inclusive term—it is not limited to the dictionary definition—"to make surfaces slippery and reduce friction, eliminate asperities and prevent cohesion between lubricated surfaces." There is much more to it than that—this thin film of oil is expected to prevent the rise of frictional heat beyond a safe operating limit—to aid the cooling systems in dissipating frictional heat as it is generated—to carry away impurities drawn into the engine through the fuel system, or the air intake—keep the engine clean.

Although for the purposes of my remarks I have confined my illustrations to the engine of the average car, the same comments would apply to any internal combustion engine, allowing, of course, for differences in piston foot travel and revolutions per minute of bearings and crankshaft due to differences in engine size and design.

The Petroleum Industry has consistently recommended that a motor car engine crankcase flushed and refilled with fresh oil every 1,000 miles is considered safe practice for the average driver.

Now a six-cylinder engine of an average price car—without which the car itself would be useless—if you had to replace it would cost $275.00 and the labor $25.00, or a total of $300.00. There is also the additional expense to be considered in the loss of service for the time out period when the car should have been performing useful work. On the

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basis of 12,000 miles per year with crankcase drains and refills at 1,000 mile intervals—and allowing for one quart of make-up oil between drains—would require 66 quarts of oil which at 35c per quart represents a cost annually of $23.10. Now if crankcase drains were made at say 2,000 mile intervals and allowing for 2 quarts of oil between drains it would require 35 quarts of motor oil which at 35 cents per quart represents a cost of $12.25 or a saving between the two plans of $10.85 annually —21 cents per week.

Twenty-one cents per week as a saving in the 2,000 mile drain period over the 1,000 mile period—in point of fact, the cost of following the 1,000 mile drain program represents 45 cents per week—a small amount when you think of it—to insure the optimum of lubrication service from the engine of the average car we have been discussing—representing an investment of $1,500. In many cases one of—if not the principal asset of an average family.

There are also times when the engine crankcase should be drained, flushed and filled with new crankcase oil as soon as it is possible to do so, after the car has been driven through a dust storm, a creek, or high water on a flooded roadway regardless of what the mileage run on the crankcase oil prior to the exposure to such extreme conditions.

Now the oil industry has done a remarkable job in not only providing adequate quantities of motor oils to meet increasing demands—but at the same time it has achieved outstanding success through research in producing premium motor oils. These premium oils assure maximum engine power and smooth engine performance—minimum rate of wear of bearings, pistons, rings, cylinder walls, timing gears, all of which is aimed to extend the useful life of the power plant of the car.

Now these premium motor oils can be and are contaminated by road dust, metallic particles, soot and other by-products of combustion. With these contaminants present oxidation of the motor oil in use is accelerated. Since premium oils are fortified for chemical stability the rate of oxidation is lower than it would be if oils of lesser quality are used. However, oxidation will have taken place even in premium oils if their use is extended beyond a reasonable period.

Sludges are also factors to be taken into consideration. Premium oils assure the best protection against their formation, but they do not and cannot prevent them. They will be present in some degree and the best way to get rid of them is by crankcase draining and flushing at regular intervals. To argue against this is just as nonsensical as to argue it is unnecessary to wash your hands except once a week or once a month.

There is the high temperature sludge formed by the by-products of combustion and/or oxidation of motor oil promoted by continued heat of the motor and the catalytic effect of the metals present. The most practical way to eliminate such sludge is to drain the old oil, flush crankcase and refill with fresh clean oil. If allowed to continue, the high temperature sludge forms at an accelerated rate because of the accumulative effect of the various oxidizing influences present in motor operation, including high temperatures, catalytic effect of metals and road dust, aeration, etc., and inevitably leads to the formation of varnish and lacquer, often resulting in stuck or broken rings and worn or scored pistons and cylinders, with possible motor failure.

There is also the low temperature sludge formed only when the oil is contaminated by moisture and fine particles such as road dust or soot. The soot and water may be by-products of combustion which are developed usually when the crankcase is cold, or water may be drawn in through the breather pipe as atmospheric moisture, especially on rainy

foggy days, or small particles may enter the crankcase as road dust. This type of sludge is formed only when the crankcase oil remains at low temperatures and when, due to short runs, insufficient heat is present to drive off moisture entrained in the oil.

Why preach the doctrine of being penny wise and pound foolish—the safest automotive engine practice of draining crankcase every 1,000 miles and using the best oils which cost but 45 cents per week? There are many 50-cent pieces spent per week for things far less practical or even sensible—and if one is tempted to stretch the period to 2,000 mile crankcase drain intervals the saving is 21 cents per week. I think that I have reached the point where a reference to the old expression, "Don't lose the ship for a ha-penny worth of tar"—is in order.

"Take good care of your lubricants and they will take good care of your car."

The gears in the power transmission system which includes the transmission gears and the rear axle gears receive little if even any attention from the average motorist, because they are located in an inaccessible place on the car and they can only be examined while the car is on a lift or over a pit unless you want to get real messy and dirty by crawling under the car while it is standing in a driveway or on a garage floor.

Without these gears though the power produced by the engine would be of little use. These gears take a great deal of punishment during the useful life period of a car. Stresses on gear teeth surfaces may reach values as high as 350,000 to 400,000 pounds per square inch and the rubbing or sliding velocities range from zero to 1,800 feet per minute. The high unit stresses occur under low gear high torque conditions when the rubbing velocities are low. These loads are not necessarily built up over a gradual cycle —due to driving requirements—the loading can go from low to high by the sudden impact of a burst of power for sudden acceleration of the engine or rapid deceleration where the engine suddenly becomes a braking force—extra loading brought about by steep road grades—and at any and all times there must be that thin film of lubricant without which the gears would be destroyed in a few minutes of dry operation. Again I feel that being sparse in the quantity of lubricants used in these gears or selecting an average or even lesser quality of lubricant is false economy. Why put an unnecessary labor on these gears by handicapping them in their work—give them the best lubricants you can. They are the only means you have for transferring the power which the engine produces to the driving wheels—where the engine power is put to useful work.

The Petroleum Industry and allied industries have spent considerable time and money in the development of the proper type of gear oils which will provide an adequate film of lubricant for the gear tooth surfaces and which will if used properly protect the gear tooth surfaces from excessive wear or abrasion. The best of these lubricants marketed by reputable marketers are fortified with additive materials depending upon particular gear requirements which tend to be dissipated if the lubricants are used for too extended a period of time. The lubricants themselves also will over too extended a period of time become contaminated with materials which will steadily depreciate their useful work value as time progresses. These lubricants should be changed at regular intervals because of the conditions just mentioned and at these regular intervals the motorist who has the best interests of his vehicle at heart will arrange for a flushing of the gear cases before a fresh lubricant is placed in them. There is also the additional reason for change in the gear oils of the transmission system, the replace-

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ment of the summer grade for the winter grade and vice versa.

Perhaps a middle course is the most advisable for the draining and cleaning of these gear cases in the transmission system. The advisable time is when a season change is necessary, in the Spring and in the Fall of the year.

I am inclined to look at the gears in the transmission and the transmission itself as being equally important to the power plant of the car, because without them the car would be useless. It would be the same as having a horse and a wagon without having harness to hitch the horse to the wagon.

Without the lubricating film which is provided to cover the two surfaces of the gears they could not function. To drive a set of dry gears would mean the destruction of them in a few minutes' time. It becomes more evident the further we go into this picture that "If you take good care of the lubricants they will take good care of your car."

Using the same illustrations of this average car we find that the wheels will revolve 720 times per mile. For a car traveling at 30 miles per hour this means 360 revolutions per minute, traveling at the rate of 50 miles per hour which would mean 600 revolutions per minute. Now the weight of this average car is 3,000 pounds, which weight is suspended on four axles. The total weight, however, that may be suspended on these axles can be with a load of 2,000 pounds addition, or a total weight of 5,000 pounds—two and one-half tons. The suspension of this weight naturally throws a heavy vertical down thrust on the axle and the bearing. We cannot stop here—wheels on a typical car are equipped with ball bearings, the outer ball race will revolve at 342 lineal feet per mile—10,260 feet for 30 miles—17,100 feet for 50 miles, and at the same time the balls will revolve at the rate of 4,080 times per minute at a speed of 60 miles per hour—122,400 times in each 30 miles—204,000 times in each 50 miles. The figures on the inner ball race are comparable but higher, the race will revolve at 454 lineal feet per mile—the balls in the race will revolve at 5,785 times per minute at a speed of 60 miles per hour—173,550 times per 30 miles—289,250 times per 50 miles. When the car shall have traveled 1,000 miles the balls on the outer race will have revolved 4,080,000 times and on the inner race 5,785,000 times. Here again the point stares us in the face that the only media which permits these ball bearings to function is the thin film of lubricant which must be here to cover the ball surfaces. To operate a dry ball bearing subjected to such loads would be courting disaster in a few minutes of time. Surely attention at regular intervals to these bearings and a provision at these regular intervals is sound practice, the proper quality and quantity of wheel bearing grease of a recognized proper grade is not only a sound course to pursue but assurance of safer driving.

We hear more and more emphasis being placed on safety driving and here is the place where emphasis in this direction is required. Could you think of anything that could be more serious than the failure of these bearings at a time when the vehicle is being driven at a speed of 50 miles per hour on a crowded highway?

"Take good care of your lubricants and they will take good care of your car."

I do not propose to take up each moving part of a car and follow through with the same type of reasoning, though I believe and feel that you will agree that this objective approach to this question is in the interest of the consumer. Now we hear remarks made occasionally that, what I am now saying may very well apply to cars that have been operating for five, six or seven years, or in other words those that come off the assembly lines prior to World War II, but as far as the new cars that are coming off the assembly line are concerned, they do not require this kind of attention.

The thought which goes through my mind when I hear such a remark is when does wear start on surfaces in contact where motion takes place and I must admit that I am naive enough to believe that it starts at the very beginning of the car's operation. Therefore, it makes sense to me that it is in my best interests as a car owner to exercise proper care in the lubrication of my new vehicle from the moment it comes into my possession, that I can preserve that feeling of newness as long as it is possible to do so, and since a sound lubrication practice costs a little more than a hit or miss method I feel that I am performing a service for myself which will give me comfort and safety while I traverse the public highways.

Correct lubricants in the proper amounts should be used. When a correct lubrication practice is followed, wear of the surfaces of the moving parts will be reduced.

Don't wait until the time that you hear a squeak to be reminded that a moving part requires a lubricating film of grease. Don't wait for a squeak to be reminded that a lubricating film has been dissipated and that new fresh lubricant is required. Squeaks mean wear and it is the only means that dry surfaces in contact have to warn that they have been neglected. These surfaces have no other means of conveying a warning until they are destroyed and at that time trouble stares us right in the face.

Lubricants of the grease type take care of these metal surfaces where motion takes place and at most vital and important point. What could be more important than a steering gear assembly for example? Why toy with theories—a period of 1,000 miles for regular checking and re-lubrication is none too soon. Steering gears carry a heavy responsibility—the failure of one during driving on a highway can and usually does mean disaster.

The Grease Industry has made a vital contribution to the requirements of car lubrication. These lubricants which must meet many and various conditions of operation take upon themselves the load of insuring safe and comfortable driving from the point where the power has been transferred from the engine to the gears.

We have spoken up to now of the 1,000 mile engine crankcase oil drain period—Here is where we should replace it with an all inclusive program—Lubricate for safety every 1,000 miles.

In addition to following the sound practice of Lubricate for Safety every 1,000 miles—we gain another valuable service beside the best and surest lubrication. We do not get under our cars ourselves because it is a messy thing to do under even the best of circumstances, but when a car is on the lift when the chassis is receiving its regular lubrication at this 1,000 mile period it is an ideal time to look for broken connections in the body, possible leaks in the hydraulic brake system, tire cracks, faults developing in the muffler assembly, faults in the steering assembly, etc. Breaks can be readily spotted by even the unpracticed eye of the motorist, but the experienced eye of the man doing the lubrication job at the service station, garage or car dealer, however, can go further; he can and should spot those places where troubles might be expected and he can and should draw these to the motorists' attention—A stitch in time saves nine.

Let us explain to our customers in sound language the need to protect the car's engine, chassis and accessories, and how it can best be done by a regular periodic lubrication job. Let us demonstrate to them that good lubrication is a small thing that the cars expect from them in return for a long period of trouble-free services demanded from the cars.

This "Lubricate for Safety every 1,000 miles" represents to the average motorist a job done once a month. It is something he can have done for him at reasonable cost by competent persons located in most, if not all, of the service stations, garages and car dealers located in all parts of this country.

The figures which I have used here are illustrative only of the functions in a car which the thin films of lubricants are called upon to make possible that useful work and service are done by the vehicle. To me they dramatize the work which the lubricants are called upon to do and with their proper care, selection and replacement at regular intervals they will do it.

It is indisputable that if—"You take good care of your lubricants they will take good care of your car."

N. L. G. I. Fourteenth Annual Convention

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The social activities of the convention were concentrated in Tuesday evening, October the 1st, with a cocktail hour at 5:30 p. m. and the banquet at 7:00 p. m. The officers and Board of Directors with their ladies graced the top table. The banquet room was set with large circular tables cabaret style. Two hundred twenty-five people attended, filling the Sheridan Room of the Edgewater Beach Hotel to capacity.

After an "official" photograph, following N. L. G. I. tradition that there shall be no speeches at the annual banquet, President Georgi introduced Mr. William Murray of the Deep Rock Oil Corp. in Chicago, Chairman of the Entertainment Committee, who in turn introduced the talent which provided a variety of entertaining and high class acts before the adjournment of the meeting.

The third day was given over entirely to a symposium sponsored by the N. L. G. I. Technical Committee. The subject for discussion was the "Pumpability of Grease and Delivery Characteristics of Dispensing Equipment." This session was presided over by the Technical Committee Chairman, Mr. H. L. Moir of the Pure Oil Company, Chicago, Illinois, and while there were no written prepared papers, the subject was of such commanding interest and vital importance that many people came prepared to speak with lantern slides showing charts and graphs to illustrate their views.

The consumer of lubricating greases will be the benefactor of this meeting. As a result of the better understanding of their mutual problems lubricating grease manufacturers and dispensing equipment manufacturers will be cooperating closely to deliver to the friction point the right amount and kind of lubricating grease to meet the particular requirement.

Clearly indicative of the interest in this symposium is the fact that it held on with a good crowd late in the afternoon, long after the hour set for adjournment.

The newly elected Board of Directors held its first meeting at noon of the third day. New officers were elected, committees appointed and plans made for the year's operations.

The Fifteenth Annual Meeting of N. L. G. I. will be held at a time and place selected by the Board of Directors.

"The Spokesman" in New Dress

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forthcoming issue. These changes, minor in detail, are made to create more interest, to give the magazine more readability, but never losing sight of the fact that the National Lubricating Grease Institute is interested in the technical advancement of the manufacture of lubricating greases and of rendering a greater service to the consumers of lubricating greases. Therefore, its official publication, "The Institute Spokesman," will be vigilant to those ends in its editorial policy.